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### **Diversity of *Daphnia* in Caspian and Urmia Lake Basins (Northern Iran): a molecular approach**

student poster

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Only scarce information is available about the diversity of *Daphnia* in Iran, and all historical literature is based on morphological investigations. The aim of our study was to improve knowledge in diversity of this genus in biogeographically interesting region of northern Iran by combining morphological identification and molecular data. We sampled zooplankton from 64 randomly chosen localities across ca 2500 km wide longitudinal gradient in Urmia Lake and Caspian Sea basins. These included both permanent habitats (lakes, reservoirs) and small temporary water bodies (ponds, lagoons), both freshwater and saline. In the samples, twenty four *Daphnia* populations were identified. Morphological investigations revealed four *Ctenodaphnia* (*Daphnia magna*, *D. mediterranea*, and members of *D. similis* and *D. atkinsoni* complexes), one species of the *D. pulex* group (a small-sized member of the *D. obtusa* species complex), and at least three taxa of the *D. longispina* group (*D. curvirostris*, *D. galeata*, and *D. longispina*). For most populations, we sequenced a fragment of the mitochondrial gene for 12S rRNA, to support morphological identification and provide additional information on members of species complexes with unsettled systematics. Morphological-based identification was mostly confirmed, however, some biogeographically interesting lineages were found. One of the populations phenotypically similar to *D. longispina* is a divergent mtDNA lineage, previously reported from Sweden and Belarus. The north Iranian member of the *D. obtusa* complex is distinct, distantly related to a lineage previously found in Greece. The local *Daphnia* cf. *similis* belongs to a species found from Africa to Far East, thus filling the gap in its distribution. An unambiguous evidence of *D. mediterranea* is a new species record for Iran. Considering that these results come from randomly sampled habitats in a relatively restricted part of the country, we presume that the diversity of the genus in Iran is even higher.